

Claims

1. A two-stroke engine having a crankcase, a crank, a connecting rod, a piston and a cylinder with a transfer tract, a transfer port and an exhaust port, whereby the transfer port and the exhaust port are at least partially coincident, the transfer port and
5 the exhaust port being further provided with a port valve, operable between a position to substantially close the transfer port and open the exhaust port during an exhaust phase of the engine, and a position to substantially open the transfer port and close the exhaust port during a transfer phase of the engine.
- 10 2. An engine according to claim 1, wherein the crankcase comprising a closed chamber with a connecting port in a wall thereof, and the assembly further comprising a pump having a divided chamber therein, one side of said chamber being connected to said crankcase via said connecting port, and the other side of said chamber having an inlet port, an outlet port, and valve means to ensure unidirectional flow therethrough,
15 wherein said chamber is divided by a moving member responsive to variations in pressure in said crankcase to cause flow through said other side of said chamber, said outlet port being in fluid communication with the transfer port of said cylinder.
- 20 3. An engine according to claim 2, wherein said pump is connected to a first plenum chamber downstream thereof, said first plenum chamber having an inlet and an outlet.
4. An engine according to claim 3, and further including a second pump, said second pump having an inlet connected to an air box upstream thereof, and an outlet
25 connected to the inlet of said first plenum chamber.
5. An engine according to claim 3, and further including a second plenum chamber downstream of said first plenum chamber, wherein the second plenum chamber operates at a higher pressure than said first plenum chamber.

6. An engine according to claim 5, and further including a second pump, said second pump having an inlet connected to an air box upstream thereof, and an outlet connected to an inlet of said second plenum chamber.
- 5 7. An engine according to any preceding claim, wherein the port valve comprises a rotary valve.
8. An engine according to any preceding claim, wherein the port valve is resiliently biased whereby the port valve is arranged to be opened by transfer gases
10 from the engine, in use.
9. An engine according to any preceding claim, wherein the transfer tract has a transfer valve to ensure unidirectional flow of gaseous fluid through the transfer port, in use.
- 15 10. In combination an engine according to any preceding claim and a vehicle.